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ROCKS and MINERALS

A Magazine for Mineralogists, Geologists and Collectors

Official Journal of the Rocks and Minerals Association

August, 1941

Vol. 16, No. 8 | 25c | Whole No. 121

THE ROCKS AND MINERALS ASSOCIATION

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Organized in 1928 for the increase and dissemination of mineralogic knowledge

To stimulate public interest in geology and mineralogy and to endeavor to have courses in these subjects introduced in the curricula of the public school systems; to revive a general interest in minerals and mineral collecting; to instruct beginners as to how a collection can be made and cared for; to keep an accurate and permanent record of all mineral localities and minerals found there and to print same for distribution; to encourage the search for new minerals that have not yet been discovered; and to endeavor to secure the practical conservation of mineral localities and unusual rock formations.

Ever since its foundation in 1928, the Rocks and Minerals Association has done much to promote the interest in mineralogy. It has sponsored outings, expeditions, formations of mineralogical clubs and the printing of many articles that have been a distinct contribution to mineralogy.

Those of our readers who are members of the Association can rightly feel that they too were sponsors of these many achievements that have helped to give mineralogy a national recognition. Among your friends there must be many who would like to have a part in the Association's work—to share with you the personal satisfaction, the pleasure, and the benefits of membership. Will you give your friends this opportunity to join the Association by nominating them for membership?

Each new member helps to extend the Association's activities—helps to make your magazine larger, better, and more interesting, and above all assists in the dissemination of mineralogical knowledge.

Some advantages of memberships: All members in good standing receive:

(1) **Rocks and Minerals**, a monthly magazine. (2) A member's identification card that secures the privileges of many mines, quarries, clubs, societies, museums, libraries. (3) The right to participate in outings and meetings arranged by the Association. (4) the right to display a certificate of membership and to place after their names a designation indicating their membership or to advertise membership on stationery, etc. (5) The distinction and the endorsement which comes from membership in the world's largest mineralogical society.

Mineralogical clubs which subscribe for **Rocks and Minerals** also become affiliated members of the Rocks and Mineral Association and enjoy all the advantages which such an affiliation affords.

A number of clubs hold membership in the Association, participate in the annual outings, and co-operate in many ways in furthering the aims and ambitions of the Association.

Affiliation with the world's largest mineralogical society cannot fail to increase membership, enlarge circles of acquaintanceship, and stimulate a keener interest in mineralogy.

A list of affiliated clubs will be found among the back pages of the magazine.

Rocks and Minerals

PUBLISHED MONTHLY

Edited and Published by PETER ZODAC

August 1941

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Entered as second-class matter September 13, 1926, at the Post Office at Peekskill, N. Y., under the Act of March 3, 1879

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Specially written articles (as contributions) are desired.
Subscription price $2.00 a year; Current numbers, 25c a copy. No responsibility is assumed for subscriptions paid to agents and it is best to remit direct to the Publisher.
Issued on the 1st day of each month.

Authors alone are responsible for statements made and opinions expressed in their respective articles.

ROCKS and MINERALS PEEKSKILL, N. Y., U. S. A.

The Official Journal of the Rocks and Minerals Association

Chips From The Quarry

A TIMELY WARNING—HEED IT!

Philip Morrill, of Concord, Mass., one of our good friends and members, calls our attention to a matter which unless checked and quickly is apt to work great hardships for mineral collecting. This has to do with the damage done at mines and quarries by visiting collectors. We quote a part of his letter:

"There is a subject that I have intended to write you for some time and it is the respect for the mine or quarry operators' rights by mineral collectors and individuals. In Maine, where I am most familiar with localities, this condition has reached serious proportions and unless steps are taken to rectify it there will be a major crisis for the future of collecting.

"In the past year, Newry has been closed to collectors due to the carrying off of tools from the workings. Mt. Mica is closed to all collecting. Berry quarry admission only on fee. Bennett quarry closed except on fee and under special circumstances. Mr. Tragiano, who operates the Black Mt. quarry, has been extremely kind and helpful to collectors yet last summer he had some exceptional groups of tourmalines, exposed for later removal, picked to pieces and ruined by a group of collectors. The Howard Irish quarries on Paris Hill are closed. Several years ago Mr. Bumpus of the Bumpus quarries was extremely annoyed by a collector who tried to get away with 500 lbs. of beryl.

"Democracy is based on the rule that its citizens act with consideration for their fellow men and when they fail to do so rules are passed to force them to do so thereby depriving them of a certain amount of liberty. The handwriting is on the wall!"

Mr. Morrill has sized up the situation so completely that there is little we can say. This condition seems to prevail in many sections of the country and unless checked many of the mines and quarries will be closed to collectors. We believe that clubs should take the matter up at meetings while collectors in general should try to prevent depredation to property by any other collector whether friend or not. We have to unite in this very vital and most serious condition which unless remedied will cripple mineral collecting.

Peter Zodac

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Whole No. 121

HOME LABORATORY TESTS FOR THE IDENTIFICATION OF ZEOLITES AND RELATED SILICATES*

By M. ALLEN NORTHUP

Morristown, New Jersey

Although good specimens of most zeolites from New Jersey are so characteristic that, once seen, they can easily be recognized again, certain ones like natrolite and pectolite sometimes resemble each other. Also many specimens composed of a mixture, or consisting of small grains on rock, are not so easily identified. This is particularly true of those occurring in less well known New Jersey trap rock quarries, and of the stilbite, heulandite, etc., which form tiny crystals in cracks in the Manhattan schist of New York City, and in the rocks at the Tilly Foster mine.

Often these minerals are stained by limonite, or are far from typical in appearance. For instance, the writer has found prehnite forming a layer one crystal thick of microscopic grey crystals on rock and as isolated snowwhite tabular crystals instead of the familiar green rounded forms. In most cases such specimens will show some point of similarity with larger and more typical ones when examined under a lens. Thus it is usually possible to make a pretty good guess as to the identity of the mineral, at least narrowing it down to two or three possibilities. A confirmatory test or two is then needed to identify the mineral definitely.

The following scheme of testing, based on the most reliable physical properties and simple chemical tests applicable to small amounts of material, was worked out. It was designed primarily for positively distinguishing the minerals of this group with the least possible work, and is not intended to be a complete description of them. In other words, it has been boiled down so as to exclude all but the most significant properties. More detailed information can be found in any good text book of mineralogy.

I. Minerals:

The minerals considered are:— prehnite, pectolite, datolite, heulandite, stilbite, analcite, chabazite, gmelinite, stevensite, natrolite, thomsonite, and laumontite. As a group they are characterized by the facts that they commonly occur in trap rocks, contain water, and usually fuse easily and with swelling. (The name "zeolite" is derived from two Greek words meaning "boiling stone").

Since they are almost universally associated with the foregoing, calcite and quartz are also included, as well as albite, selenite, and thaumasite which were abundant at certain of the New Jersey quarries.

II. Materials:

A checking collection of small typical hand specimens is very helpful. The only equipment required is a pair of tweezers (preferably stainless steel), the kitchen

* Portion of a paper read at the Plainfield Mineralogical Society, April Meeting, 1939.

gas stove or an alcohol blow torch, a test tube, and eye dropper, and last, but not least, a good hand lens. In addition, a small amount of hydrochloric (muriatic) acid and some litmus paper are needed. These can be obtained at any drug store.

III. General Characteristics:

A. Color: As with most minerals, color is not a reliable characteristic, but the following usual colorings may be mentioned:

Green of various shades—prehnite, occasionally datolite.
Red, pink, etc.—chabazite and gmelinite.
Brownish yellow—stilbite.

The other minerals on the list are generally white or colorless.

B. Hardness: This is also unreliable due to the fact that the fibrous structure of such minerals as natrolite makes them fragile, although they are intrinsically quite hard. A few useful generalizations may be made:

Very soft—thaumasite, selenite.
Easily scratched by a knife—calcite.
About as hard as a knife—quartz, prehnite, datolite.

IV. Chemical Tests:

A. With hydrochloric acid: This is best diluted with an equal volume of water.

1. A drop of the acid is placed on the specimen to see if it fizzes.
2. If the mineral fizzes, a few fragments are placed in a test tube, covered with acid, and allowed to dissolve.
3. If the mineral does not dissolve, a sample should be powdered, transferred to the test tube, covered with acid and boiled. Note whether it dissolves.

CAUTION: When heating tube always point it away from the face and innocent bystanders.

B. Fusion and Flame Tests:

A thin splinter (about the size of a pencil point) of the mineral is held in the tweezers and heated in a blue gas flame to see if it fuses, and what color, if any, it imparts to the flame. Also note whether the mineral swells up during fusing and what kind of a globule is formed. Familiarity with the behavior of known specimens is very helpful in interpreting this test.

C. Test for Water:

A few fragments of the mineral are placed in a clean dry test tube. The bottom end of the tube is then heated in a gas flame. Any water combined in the mineral is driven out and condenses farther up the tube. A tube of small diameter is best and can easily be made from a piece of glass tubing by heating it to redness in the middle, drawing it out, breaking it in two, and melting off the ends.

Method of Using the System

The hydrochloric acid test is first made. This at once narrows the search down to the few minerals in Group I, or places the mineral being tested in Group II. If in Group I, the physical characteristics are examined and one or two of the confirmatory tests are run for final identification.

If the specimen does not fizz or dissolve, its fusibility is next tested. The manner of fusing and the color imparted to the flame will place it in one of the other subgroups. Once this is done, the physical properties, type of bead formed on fusing, and appropriate confirmatory tests will serve to distinguish the sample from other minerals in its subgroup. For instance, a specimen fuses quietly—coloring the flame yellow. This places it in subgroup C. It is white, with a radiating structure which means that of the minerals in this subgroup, it is either natrolite or pectolite (or its alteration products). No crystal ends are visible and the bead formed on fusion is somewhat opaque, both of which suggest pectolite, rather than natrolite. It is triboluminescent (shows yellowish sparks when scratched in the dark) and phosphoresces under the iron spark—both of which positively identify it as pectolite.

SCHEME FOR TESTING

I. Minerals that fizz or dissolve readily in hydrochloric acid:—

	Behavior in Test	Additional Test	Crystal Form, Cleavage and Luster	Remarks
Calcite	Fizzes and dissolves completely in cold acid.	1. Contains no water. 2. Infusible.	Rhombohedral crystals made up of sets of 3 or 6 faces. 3 perfect cleavages (rhombohedral) Medium vitreous luster.	Usually translucent or transparent with slightly yellowish tinge. Usually crystallized
Thaumasite	Fizzes and dissolves in acid.	1. Contains water. 2. Boiling down the acid solution deposits a jelly-like mass of silica. 3. Almost infusible.	Masses of felted or parallel short needles or fine granular. Luster silky to dull.	Color white with definite greenish transluscence. Very soft.
Selenite	Does not fizz. Powder dissolves in hot acid with ease.	1. Fusible 2. Contains water.	Usually not distinct crystals in trap rocks. Perfect basal cleavage. Medium pearly to vitreous luster.	Easily scratched by fingernail. Perfect (almost micaceous) cleavage.

II. Do not dissolve readily in acid. Fuse and impart some color to the flame:—

A. Color the flame green:

	Fusion	Usual Structure	Crystal Form and Cleavage	Remarks:
Datolite	Swells and fuses to a bubbly white enamel.	Glassy crystals.	Crystals unsymmetrical looking — wedge shaped. No cleavage.	Often greenish. Hardness: 5-5.5.

B. Color the flame faintly orange-red, or violet:

Prehnite	Swells and forms a dark colored slag.	Green rounded masses of crystals with faint radiating structure.	Exposed crystal ends lath shaped with diverging striations on sides. No cleavage.	Hardness 6-6.5
Apophyllite	Swells a great deal and forms a white bubbly enamel.	Distinct crystals	Short square prisms or pyramids. Perfect basal cleavage — forming a square face with medium pearly luster.	1. Prism faces vertically striated. 2. Colors flame violet, but may be obscured by yellow of sodium. 3. Contains water which reacts acid (turns blue litmus paper red).
Heulandite	Swells moderately and fuses to a white enamel.	Distinct crystals	Coffin - shaped crystals. Perfect cleavage and strong pearly luster on long side of crystal.	Oblong or lozenge-shaped cleavage face with strong pearly luster.
Laumontite	Usually difficultly fusible.	Diverging cyrstals.	Small prisms with oblique terminations Rectangular cleavage	Usually opaque, white and very easily crumbled.

B. Color the flame faintly orange-red, or violet (con't.):

	Fushion	Usual Structure	Crystal Form and Cleavage	Remarks:
Selenite	Fuses quietly.	Laminated masses.	Perfect cleavage---almost micaceous.	1. Usually transparent and colorless. 2. Easily scratched by fingernail.

C. Color the flame strongly yellow (sodium) and fuse without swelling:—

Albite	Fuses with difficulty to a clear glass.	Crusts or rounded bunches of tiny crystals.	Very small rough prisms. No cleavage visible. Harder than glass.	1. Either opaque white or pink. 2. A low temperature form — quite different from the Albite of pegmatites, etc.
Natrolite	Fuses easily—to a clear glass.	Radiating white needles or coarser prisms.	Prisms have square cross section with flat or low pyramid terminations. Cleavage — prismatic at 90° angle (seen in massive variety).	1. Not luminescent. 2. Crystal ends nearly always visible. 3. Not so compact as pectolite.
Pectolite	Fuses easily—to an opaque white bead.	Radiating silky white masses—compact.	Crystal ends thin lath-shaped. No cleavage visible.	1. Buff fluorescence and phosphorescence under Iron Spark. 2. Yellowish triboluminescence.
Mangan-Pectolite and Stevensite	Almost infusible.	Altered forms of pectolite.	Indistinct.	1. Mangan-pectolite, fibrous, usually reddish. 2. Stevensite becoming compact and waxy
Analcite	Turns white — then fuses to a clear glass.	Distinct crystals.	Almost invariably trapezohedrous. No cleavage.	

D. Color the flame strongly yellow (sodium) and fuse easily with much swelling to a white enamel:—

Stilbite	Throws out branches that curl up and finally fuse together.	Sheaf-like groups or balls of broad flat crystals.	Coarse flat crystals vertically striated and usually pointed Cleavage paralled to long flat side—with weak pearly luster.	Usually yellowish or brownish with very bright vitreous luster.
Chabazite	Only moderate swelling.	Distinct crystals.	Almost cubic rhombohedrons. No cleavage visible.	1. Usually some shade of pink grading into yellow and brown. 2. Full of internal bubbles.
Gmelinite	Similar to Chabazite.	Similar to Chabazite	Similar to Chabazite	1. Crystal faces built up of many smaller ones. 2. High vitreous luster and many internal bubbles.

D. Color the flame strongly yellow (sodium) and fuse easily with much swelling to a white enamel (cont'd.)

	Fusion	Usual Structure	Crystal Form and Cleavage	Remarks:
Thomsonite	Pronounced swelling.	Radiating silky white masses, or sheaf-like bundles.	Orthorhombic prisms—usually not distinct.	1. Not luminescent. Radiating fibrous balls have very high silky luster when broken open.

E. Do not color the flame and do not fuse:

Quartz	Similar to quartz from other localities—usually in crystals.

NEW ENGLAND NOTES

Conducted by RUDOLPH C. B. BARTSCH

36 Harrison St., Brookline, Mass.

Middletown, Conn:

A recent visit by two collectors to the White Rocks pegmatite quarry near Middletown, Conn., resulted in the finding of many interesting specimens of which lepidolite, beryl, black, green, and pink tourmaline were especially common. The quarry is easy to reach. To reach the locality from Middletown, go down College Street (off Main St.) till you hit the river and turn right. With this as a starting point, 0.3 miles, River Road begins (turn left on it and follow the river down); 0.4 and 0.7 railroad grade crossings; 1.1 overhead incline to state hospital; 1.5 railroad grade crossing, turn left at junction of roads; 2.1 brook, 15 ft. wide (to right, 600 ft., State Farm crushed stone quarry is visible where chalcopyrite, galena, rock crystals, sphalerite may be collected but not in good specimens) (to left, 250 ft. down the brook and on left side, is the old Middletown lead-silver mine—3 short tunnels almost on edge of brook—anglesite, chalcopyrite, quartz crystals may be collected but not in good specimens); 2.4 miles turn right and park. Walk up hill about 600 ft., following left road all the way. The quarry is on top of hill and the Appalachian Trail goes over it.

Phippsburg, Maine:

Philip Morrill, of Concord, Mass., in a letter to the Editor, reports: "The old Basin Quarry of Phippsburg was reopened this spring for a short time. The dumps show a large quantity of large quartz groups. I also found an amethyst, the only known to me from this section."

Greenwood, Maine:

"At the Howard Quarry in Greenwood, opposite the beginning of the trail to Noyes Mt.," continues Mr. Morrill," green spodumene, bright pink montmorillonite, dark lepidolite in blue cleavelandite are common on the two dumps."

Rumor has it the old siderite mine near Roxbury Station, Conn., has been fenced in with "Keep Off" signs posted. We will check up on this.

Ore Hill Conn. The old limonite mine in the northwestern section of the state, on U. S. 44 (close to the New York - Connecticut Line), is being dewatered and active operations may be started anyday. A trip paid the locality on July 10, 1941, showed only a small section of the large open cut working which still contained water. A steam shovel in the northeastern section of the pit was apparently making a road. We shall have more reports on this old mine which is noted for its very fine limonites and turgites.

U. S. BUREAU OF MINES ENGAGED IN MANY ACTIVITIES DURING 1940

The exploration of various ore deposits in the United States, with the resulting determination that a number of them might be sources for certain strategic minerals in an emergency; the development and improvement of methods for producing high-purity electrolytic manganese and chromium, and for recovering nickel, copper, and platinum metal from some complex domestic ores; and the acquisition of special economic data on minerals of importance to the national defense program were among the outstanding accomplishments of the U. S. Bureau of Mines for the fiscal year, 1940, according to the annual report of Dr. R. R. Sayers, Director of the Bureau, to Secretary of the Interior Harold L. Ickes.

Among the Bureau's other national defense activities were: the conducting of tests of American coals to find their value as a source of motor fuel and lubricants; production of benzol, toluol, and xylol, (necessary for explosives) as a byproduct of the coking of coal; metallurgical investigation of the production of electrolytic manganese and magnesium metal; collection of economic and statistical data on scrap metals; survey of aviation gasoline; expansion of information on demolition explosives; substitution of American non-metallic minerals for a wide variety of commodities imported from abroad; and emphasis on the instruction of first-aid teachers who could train civilians in an emergency .

Bureau of Mines Established in 1910 to Promote Safety in the Mineral Industries

The fiscal year 1940 was especially significant to the Bureau of Mines because it marked the completion of three decades of service to American mining and the allied industries. Established in 1910 to promote safety in the mineral industries, to conserve the Nation's mineral resources, and to conduct investigations relating to the mining, preparation and utilization of minerals, the Bureau during the past thirty years has carried on many activities which have accrued to the benefit of both the industries and the people who are employed in them.

Engineers of the Safety Division of the Bureau have trained members of the mining industry in first-aid and mine rescue, responded to emergency calls for assistance after mine fires and explosions, inspected mines at the request of operators, and attended safety meetings and first-aid competitions. During the fiscal year 1940, these engineers trained 93,878 people in mine rescue and first-aid, bringing the total number of courses completed since the establishment of the Bureau to 1,361, 465. They also investigated 18 mine explosions in 12 States, and 28 mine fires in 11 States, during the year assisting in rescue and recovery work in virtually all of them where life was involved.

The Bureau continued its efforts to improve hygienic conditions in the mineral industries in order to maintain health and increase efficiency and morale. Studies pertinent to the safe use of Disel locomotives underground were undertaken; respirators and gas masks were tested and approved; and, among other health activities, reports were prepared on the use of helium-oxygen mixtures to prevent "ear block" and on the administration of oxygen during decompression to prevent compressed-air illness.

In view of the fact that many new workers will be needed in industries producing supplies needed by the defense program, especial attention will be devoted during the coming year to making working conditions safe and hygienic. The past year's black record as regards coal-mine explosions prompts the inevitable conclusion that training in accident prevention must be stressed if the mining industries are to retain the improvement they have shown during the first 30 years of the Bureau of Mines.

The Bureau tested many pieces of electrical equipment, submitted by their manufacturers during the year, to deter-

mine through investigations and "explosion tests" whether they were safe for use in gassy coal mines. A total of 38 such machines were classified as "permissible" by the Bureau if properly installed and maintained in accordance with standards promulgated by the Bureau. Experts of the Bureau also investigated electrical equipment for the Navy Department, in cooperation with Navy engineers. They also undertook comparative tests of the explosive properties of aviation gasolines and "dope" solvents and thinners with petroleum ether.

In conducting research and studies pertaining to the safe use of explosives, and the explosibility of gasses and vapors, the Bureau made 1,619 gallery tests to determine whether given samples of explosives would ignite explosive gas-air mixtures or explosive mixtures of coal dust, gas and air; and, also developed a procedure for eliminating gas explosions induced by oxygen-cyclopropane mixtures during anesthesia.

During the past year especial efforts were devoted to ascertaining the coking properties of America's low-rank coals to establish the extent to which they can replace steam and coking coals of higher rank and dwindling supply. The Bureau also tested coals from seven States to find how readily they liquefy to produce motor fuel and useful byproducts of the hydrogenation process.

Meanwhile, the Bureau's petroleum engineers studied energy relationships to find how the greatest amount of petroleum can be produced with the least waste of natural energy, oil, and gas. Subsurface and surface samples of oil and gas mixtures were collected from flow systems of wells and analyzed; field tests were made with the Bureau of Mines-American Petroleum Institute pressure core barrel, and operation of that instrument was improved; laboratory determinations of characteristics of hydrocarbon mixtures were continued; and studies were made of one of the older Oklahoma fields that helped to explain why many redrilling campaigns in similar areas have been successful.

The Amarillo helium plant, according to the Bureau's report, produced nearly 9,500,000 cubic feet of salable helium during the fiscal year 1940, or about 50 percent more than in 1939. Approximately 84 percent of the output was supplied to the Government and the other 16 percent was sold for medical, scientific, and commercial use. More than 450 stations of the Weather Bureau now use helium in meteorological balloons, and estimates indicate that the helium sold for medical use provided at least 34,000 hours of treatment. Figures compiled by the Bureau show that the Amarillo plant has produced 100,012,000 cubic feet of helium during its operating life of a little more than 11 years. Even this production is less than 50 percent of the potential output for an equal period if the plant were run at its rated capacity.

BUREAU EXAMINES 173 STRATEGIC MINERAL DEPOSITS

The Strategic Minerals Act authorized the Bureau to examine deposits that might be a source of strategic minerals, such as antimony, chromite, nickel, tin, tungsten, mercury, and manganese, in a war emergency. Ten such deposits were tested by surface trenching, pitting, and diamond drilling, and 163 others inspected more briefly. Results indicate significant quantities of strategic minerals in 3 of the deposits and the possibility that in an emergency the country could be self-sufficient as regards antimony and mercury. Bureau of Mines metallurgical laboratories completed 11,718 analyses and other tests of samples shipped from the field.

OTHER ACTIVITIES OF THE BUREAU

Establishment of headquarters for the Bureau's metallurgical work at Salt Lake City made laboratory and pilot-plant facilities readily accessible to mining industries of the West. Much attention is being focused upon methods of recovering important metals from low-grade or off-grade ores. Laboratory tests of an electrothermal process for producing

magnesium metal from magnesite have been encouraging. Preliminary investigations of the characteristics of manganese made by the Bureau of Mines electrolytic method were followed by tests of this material in a series of manganese alloys.

The Bureau's economic studies of metals which have been continuing for a number of years in order to promote development of domestic resources by providing data on production, consumption, and stocks of virgin metals as well as secondary metals proved to be of great value during the fiscal year 1940. The Bureau's valuable data relating to strategic minerals were utilized by various defense agencies. In fact, the mineral consultant of the Advisory Commission to the Council of National Defense established headquarters during 1940 in the Bureau of Mines and made its files the basis for setting up his own records. Statistical information supplied by the Bureau also aided the Army and Navy Munition Board in its stockpiling program.

The embargo on steel scrap proposed by the Advisory Commission threw the Bureau's improved scrap-metal canvass into sharp focus. Data were compiled for the defense agencies on abrasive diamonds, asbestoes, graphite, quartz crystals, mica, iodine and other nonmetallic commodities essential to a military program.

The Bureau's foreign mineral specialist completed surveys on the mineral resources, production and trade of Argentina, Bolivia, Chile, and Peru, and assisted procurement boards to find new sources of supply for materials cut off by the European war, including tin, tungsten, chromium, mica, and the ever important manganese.

Surveys of aviation gasoline were undertaken and surveys of coal, petroleum, natural gas and electricity available for consumption in the United States and Canada were continued.

The Bureau's report points out that the highest grades of many nonmetallic minerals, such as fluorspar, talc, graphite, magnesite, and clays, usually are imported from abroad. World conditions already have sharply decreased the availability of some of these minerals and nearly all are subject to curtailment. The nonmetals Division gave increasing attention to the application of the newer ore-dressing methods to domestic materials in order that satisfactory grades may be produced in this country and the United States rendered more independent of foreign supplies.

Continuel studies at Norris, Tennessee, have indicated that almost any variety of working properties can be developed from domestic clays, including the numerous types of kaolin and of ball clay. North Carolina alaskite was found to represent a satisfactory and potentially enormous source of white-firing, mixed potash- and-soda feldspars to replace Cornwall stone from England.

ASSOCIATE ARTS STUDIO CAMP

Readers of *Rocks and Minerals* may be interested in a camp located at Swannanoa, N. C., 7¼ miles east on Highway 70 from Asheville, N. C., which offers many advantages to mineral collectors and especially to those who wish to speciallize in natural history work. Trips to mineral localities and the polishing of minerals are some features on the Camp's program. The Camp is opened from April 1 to October 1.

For further information write Scott Dearolf, Resident Naturalist, The Associate Arts Studio-Camp, Swannanoa, N. C.

MILLERITE AT MILWAUKEE, WISCONSIN

By BENEDICT P. BAGROWSKI
University of Kansas, Lawrence Kansas

Each of the forty-eight United States has some mineral uncommon to it, limited perhaps to a single locality, and, therefore, interesting to local collectors. But when the mineral is rare in other states also, it deserves special mention. Such a mineral is millerite in Wisconsin.

Millerite, though reported from a number of localities outside of Wisconsin is a rare mineral because the amount of it that can be obtained from any one locality is exceedingly small. This rare mineral is a sulfide of nickel and belongs to the rhombohedral class of the hexagonal system. It is one of the few minerals which occur in capillary crystals. The metallic crystals, brass- to bronze-yellow in color, are typically needle- or hair-like in appearance. They occur in radiating groups, or matted tufts, but in some localities fibrous coatings or crusts are also found.

In Wisconsin, millerite occurs in but one locality, in the small area of dolomitic limestone cropping out along the Milwaukee River in what is now Estabrook Park, in the northeastern part of the city of Milwaukee. From here have been obtained the latest appreciable amounts of millerite.

Specimens of millerite from Milwaukee are included in scattered collections throughout the world because specimens from here were collected as early as 1895 when quarrying operations for cement-rock were carried on in the area. Some years later, a flood caused abandonment of operations, and when the river chose a new channel through the quarry, the millerite-bearing rock was made inaccessible. Thus the Milwaukee locality was "lost" for about thirty years. In 1936, governmental projects in widening and deepening the river channel were instrumental in again making this mineral available. The writer, who was particularly interested in the mineral, visited the locality frequently, relocated the millerite-bearing zones, and collected a large suite of specimens for his private collection and for study. Today (1941), the millerite-bearing zone is again under water since the river project is completed. Possibilities of collecting millerite from here in the future are, therefore, slight.

The millerite from Milwaukee occurs in cavities in the limestone and is well crystallized. The crystals range in size from delicate hair-like forms to crystals as large as three inches in length and 1/32 of an inch in thickness. Some radiating, almost solid masses also have been found. The crystals, however, are for the most part individually radiating from a common point usually embedded in calcite. Associated with the millerite are calcite, sphalerite, pyrite, marcasite, and zaratite, in the order of their abundance.

The sequence of crystallization of the minerals, based upon the specimens studied, indicates that millerite was the first of the cavity minerals to crystallize. Crystals of the mineral extend through those of all the other minerals lining the cavities. Sphalerite was second, followed by pyrite and marcasite. Crystals of pyrite in some specimens have grown partly around the crystals of sphalerite. Calcite was the last to crystallize, because its crystals surround those of the afore-mentioned minerals.

Of particular interest is the origin of the millerite. Nickel minerals generally are associated with basic igneous rocks, but such rocks are far removed from the Milwaukee region. Thus the origin of millerite in sedimentary rocks is puzzling. The Milwaukee occurrence is but one of several such unexplained occurrences of nickel minerals.

NOTE: For a more detailed discussion of the Milwaukee millerite, see---Amer. Min., vol. 25 no. 8, pp. 556-559, Aug. 1940.

GREEN STILBITE FOUND AT PROSPECT PARK QUARRY

By CHAS. F. DIEGNAN

Many stories are told about the wide variety of minerals that have been found at this noted quarry which has been in operation for a number of years. Such interesting tales are the motivation that brings collectors from near and far in the hope that they, too, will duplicate the finds of others.

A Saturday afternoon or a Sunday morning (early) is the best time to collect. One is almost sure to find rock hounds at the quarry making little ones out of big ones.

The quarry, a typical U-shaped excavation, is at the end of Planten Ave., in the Prospect Park section of Paterson, N. J. The walls ars high and vertical and do offer evidence of a natural disturbance that took place a long time ago. The characteristics of the walls change frequently. In some places the rock is soft, green in color and breaks easily while in other areas the color is brown or grey and the rock breaks off in chunks that follow the twisting pattern of seams. What strange moods nature must have to gather together in a relatively small area such a conglomeration of minerals as this quarry possesses!

At the present time, the west and northwest walls are the best spots from which to collect minerals. The rock is soft, easily worked and is abundantly pocketed with minerals. Veins of calcite show their markings along the wall. Often yellow calcite crystals on quartz are within reach and a little work with the chisel adds another specimen to your collection. On June 1st, of this year, three large yellow crystals of calcite, almost a pound each, were found on a shelf near the top of this wall as I worked below.

Near the base of this wall, buried beneath dirt, are pockets of datolite. Heulandite and pectolite are hidden in the same area.

One of the best spots for prehnite is the outcropping of rock on the northwest wall. A pocket about two feet deep yielded prehnite with dog tooth calcite, prehnite balls, and prehnite with pyrite; some of the prehnite was darker green than others. Brown stilbite is found lower down the wall but the rock is harder to work.

When I entered the quarry on Sunday, June 15th, of this year, I could hear the familiar banging of hammer on chisel; a group of collectors had arrived before me. I joined them and before long assisted in opening up a pocket in loose, green rock that furnished all of us with specimens of the following: heulandite on quartz, pectolite, green stilbite on calcite, and mountain leather on green stilbite.

The green stilbite was a sensation! At first it was mistaken for prehnite until examined carefully when its true identity was apparent. It occurs as small, pale green crystals on or with colorless calcite crystals. Some of the stilbite is crystallized on the very hard, grey trap rock. Grayish mountain leather, sometimes two or more inches in length, coated some of the stilbite. This is the first time that green stilbite, to our knowledge, has been found anywhere.

Editor's Note: A card from E. Wirtz of Hawthorne, N. J., received June 24, 1941, reads: "One of the most unusual finds I've ever made was as the Prospect Park, N. J., quarry this week. *Green Stilbite,* most beautiful color I've ever seen! It came out of a seam in the trap—hard trap, too—making it difficult to get. I managed to get three specimens—two small, one fairly large. I would say that the total amount of specimens taken by various collectors was not more than ten pounds."

Going on a long trip!

Jot down the names and addresses of dealers on your itinerary and pay them a visit. They are very nice fellows, know the localities of their areas, and will enjoy meeting you. Then, too, their large stocks of choice mineral specimens will intrigue you.

CALIFORNIA FEDERATION MEET

By CLARK HARRISON

On May 10-11 1941, the California Federation of Mineralogical Societies held their Sixth Annual Convention in the beautiful, ultra-modern Hotel Claremont which is nestled high in the Berkeley Hills in Oakland, California.

This conclave was the high light of the year in mineralogical circles when 2,000 members and guests gathered here to enjoy the superb exhibits and talk shop. Twenty-three of California's twenty-five societies sent delegates. Out of state societies were represented, and the Northwest Federation of Mineralogical Societies sent its president as a delegate.

Hotel Claremont is a superb, gray building of gigantic proportions set amid gorgeous surroundings of flower gardens, stately palms, and beautiful homes. It is located high in the Berkeley Hills overlooking historic San Francisco, the great San Francisco-Oakland Bridge, and the gray waters of Oakland Bay. Some of its great wings extend over the line into Berkeley.

There were sixty exhibits, and I believe most of them could pass museum requirements so well chosen were they and of such beautiful workmanship and quality. The beautiful walnut plaque of the Federation, was awarded, for the first time, to the Los Angeles Mineralogical Society for the best society exhibit. The plaque is awarded each year to the best exhibitor, who holds it one year. The society winning it three times in succession may keep it permanently.

CLARK HARRISON
West Coast Correspondent for Rocks and Minerals

The most outstanding individual amateur exhibit was that of Mr. M. Vonsen of Petaluma. He has the finest private collection of minerals in the state, and every specimen in his case was of museum quality. Though he did not compete for a prize he was given a merit award. The best educational exhibit was that of the Orange Belt Mineralogical Society of San Bernardino ,which consisted of California

HOTEL CLAREMONT
Scene of 1941 Convention of the California Federation of Mineralogical Societies

1941 Officials of the California Federation of Mineralogical Societies. President, C. D. Woodhouse of Santa Barbara (center); Vice-President, Paul VanderEike (left); Secretary-Treasurer, Kenneth Garner, of San Bernardino (right).

minerals arranged with a geological map of the state to show the localities represented by the specimens on display.

In the commercial section the minerals from Old Mexico, offered by Wendell O. Stewart and Earl Calvert, attracted much attention. Also popular were the Brazilian agates in the commercial display of Chester Teague of San Dimas.

Winning the award as the most unique specimen on display at the Convention was a huge specimen of quartz crystals from "Our Chance" mine. This quartz crystal group was mined May 22, 1939, weighs 665 pounds, has a width of 30 inches, length 44 inches, and a thickness of 24 inches. It was exhibited in 1939-40 at the Golden Gate International Exposition (San Francisco) and at the Mariposa County Fair in 1940.

Commerical dealers were well represented, giving demonstrations of their instruments and equipment. Most of the dealers donated beautiful specimens and valuable equipment as door and exhibition prizes.

Among prominent visitors to the Convention were: Dr. Austin F. Rogers of Stanford University; Dr. Adolf Pabst of University of California; Walter Bradley, State Mineralogical; Fred Young of Portland, newspaper man; and J. Lewis Renton, President of the Northwest Federation of Mineralogical Societies. Mr. Renton presented his unusual kodachrome slides of northwest gems and minerals. Dr. Rogers lectured on jade, illustrating his lecture with colored slides. The visitors were entertained by many other lectures and by motion pictures and slides.

On the night of the 10th the annual banquet drew an immense crowd. Besides the excellent dinner de luxe, such as can be served only by Claremont, there were lectures, slides, rock notes, installation of new officers, and presentation of awards and door prizes. The present officers of the Federation were reelected: President C. D. Woodhouse of Santa Barbara; Vice-President Paul VanderEike of Bakersfield; and Secretary-Treasurer Kenneth Garner of San Bernandino. Mrs. John Melhase held open house at her beautiful Berkeley home to Federation members in order that they might have an opportunity to see the excellent mineral collection of her husband, the late John Melhase, first President of the Federation. In California, this collection is second only to Mr. Vonsen's.

The East Bay Mineral Society of Oakland (an affiliate of Rocks and Minerals Association) was host society to the convention, assisted by the Northern California Mineral Society of San Francisco. Orlin J. Bell is President of the Oakland society. The 1942 Convention will be held at the Huntington Hotel, Pasadena, California, with the Mineralogical Society of Southern California of that city acting as host.

List of Prizes Awarded at the Convention

Some 18 banquet door prizes were awarded which are not mentioned, their value totaling $135.

EXHIBIT PRIZES

Minerals

1st	Miss Marjorie Welsh	Alameda
2nd	Harold Soper	San Francisco
3rd	L. S. Chapman	Hayward

Cabochons

1st	Walter Mehnert	Albany
2nd	Wm. J. Kane	San Francisco
3rd	E. S. Somerville	San Francisco

Faceted Work

1st	B. N. Porter	Oakland
2nd	Thos. J. Oliver	San Francisco

Fluorescent

1st	Dr. Courtland L. Booth	Portland, Oregon
2nd	B. E. Sledge	Oakland

Polished Petrified Wood

1st	W. J. Hurrle	Lodi
2nd	D. H. Clark	Redlands
3rd	Gates Burrell	Selma

Large Polished Work

1st	Carl Bangle	Bakersfield
2nd	Isabel Westcott	Hanford
3rd	W. C. LaRue	Oakland

Jewelry Craft

1st	Virginia Breed	Kingsburg
2nd	Princess Thompson	Dunlap
3rd	Mrs. Claribel Bell	Berkeley

JUNIOR EXHIBITS

Junior I—Age 14-18

Minerals

Boy:	1st	Al. McGuinness	Oakland
	2nd	Denny Carlson	San Leandro
Girl:	1st	Mitzi Sigall	San Francisco
	2nd	Leatrice Evinger	Bakersfield

Polished Work

Boy:	1st	Leonard Cherret	Casper, Wyoming
	2nd	Scott Cuthill	Casper, Wyoming

Junior II—Age Under 14

Polished Work

Boy:	1st	Ed Weimken	Oakland
	2nd	Henry Batteate	Berkeley
Girl:	1st	Joy Bell	Berkeley

HONOR RIBBON AWARDS (non-competitive)

Francis Sperisen	San Francisco	Faceted Stones
Max Vonsen	Petaluma	Minerals and crystals
Sylvia May Hirsch	Los Angeles	Petrified Wood
Dr. M. J. Groesbeck	Porterville	Precious Stones
J. Lewis Renton	Portland, Oregon	Moss Agates & Picture Cabochons
George Gary	Division of Mines	Crystals

The best all around individual amateur exhibit was the joint exhibit of cabochons and large polished work of W. C. RaLue of Oakland.

MINERAL COLLECTING IN NORTH CAROLINA

By DAVID M. SEAMAN

Carnegie Museum, Pittsburgh, Pa.

Collecting and studying minerals has given me my greatest enjoyment during the past ten years. So being recently married, I decided to take my wife to North Carolina on a mineral collecting trip, a vacation and honeymoon trip combined in one. You can readily see that I lost little time in introducing her to the pleasures of mineral collecting. While knowing little about minerals, their beauty of form and color is very attractive to her so that she enjoyed collecting them herself at the localities visited.

July 1st

Leaving Pittsburgh, July 1st, 1940, we drove southeast to Uniontown, Pa., and then east along U. S. Route 40 towards Cumberland, Maryland. We passed by a good fossil collecting locality for Greenbrier limestone (Mississippian), about seven miles east of Uniontown. The locality is in an old quarry along the north side of the highway about a mile east of Summit Hotel which is on the top of Chestnut Ridge. We did not stop as we had collected there many times before. The locality has yielded over forty species of invertebrate fossils; corals, bryozoa, brachiopods, gastropods, pelecypods, and a few shark teeth. Nothing else of interest was seen between Uniontown, Pa. and Winchester, Virginia. We stopped overnight at the Green Lantern Tourist Cabins, seventeen miles west of Winchester, and found them very satisfactory.

July 2nd

The next day we continued to Front Royal, Virginia, where we entered the Skyline Drive in Shenendoah National Park. Three miles south along the drive from Front Royal, we collected an amygdaloidal, purple colored, metabasalt rock with amygdaloids of white calcite and tiny epidote crystals. These made highly attractive specimens. At many places along the drive, other igneous and metamorphic rocks, too, may be collected such as granite, granodiorite, mica schist, and gneiss. About 4 p.m., we left the drive to visit the Luray Caverns at Luray, Virginia. The trip through the caverns was a most enjoyable one. We remained in Luray overnight.

July 3rd.

It rained all day on the 3rd of July but that did not stop us. We again entered the Skyline Drive and drove to its very end. The cloud effects were very beautiful that rainy day as the air currents rising in the valleys whisked them about. We stopped to see Natural Bridge, Virginia, in the afternoon and walked down the path in the rain to view it. This natural rock bridge is well worth seeing under any kind of weather conditions. Roanoke, Virginia, was as far as we drove this day.

July 4th.

July fourth was cool and clear. We stopped along the road several times, after we had crossed the border of North Carolina, to examine quartz dikes cutting the schist formations, but we did not find anything of interest in them. Statesville, North Carolina, was the destination for this day.

July 5th.

July 5th was clear and warmer. We found out later, after we had left Statesville, that the best zircon crystals in North Carolina are found near there. Good amethyst crystals have also been found nearby, but we did not stop to collect any, being more interested in seeing the old Hiddenite locality not far away, and collecting there if it was possible. The locality is along the road from Statesville to Taylorsville near the small town of Hiddenite, and is a depression, filled partly by water and surface debris, in a field south of the highway. Nothing much was found at this famous old locality save a very few small specs of hiddenite in a very hard matrix of mica schist. We had,

however, the pleasure of seeing for ourselves this famous North Carolina locality which has yielded such fine specimens of hiddenite as are to be seen in the important collections throughout the world. We were successful in finding in this same field some good, clear quartz crystals. Hendersonville was reached this night where we found Towles Tourist Cabins a good place to stay.

July 6th.

July 6th was warm and clear up until about 4 p.m. After that it rained. We searched for zircon crystals at the old zircon mine near Tuxedo, a few miles south of Hendersonville, but found only a few crystals. We had much better luck collecting at the zircon mines near Zirconia in this same region. Here the mines, which more properly should be called prospect pits, are located on the top of a hill. At one of these pits a number of boulders of pegmatite were found containing zircon crystals. From a boulder about three feet square, I obtained several good matrix specimens in feldspar, and about 75 loose crystals ranging from ¼ to ½ inches long. We remained at Hendersonville again that night.

July 7th

July 7th, we drove from Hendersonville to Ashville, N. C., where we had the pleasure of viewing part of the mineral collection of Mr. Burnham S. Colburn. His home is at Biltmore Forest. His collection of hiddenite crystals is no doubt the finest in existence. In the short time we were there, we saw over 200 fine crystals of this mineral, the largest being about ¼ x ¾ x 3 inches. Magnificent gem crystals with perfect terminations of about ¼ x 1 x 3 inches were shown us as well as many matrix specimens. A visit to his home to see this one mineral is recommended to anyone really interested in minerals who happens to find himself in this area. Many other choice North Carolina minerals are to be seen in this collection as a crystal of monazite 6x8 inches by a foot long, a gem crystal of kunzite 1x3 from Black Mountain, fine autunite, gummite, uranophane, samarskite, and others. We made Burnsville, North Carolina our stopping place for this day.

July 8th

July 8th was cloudy with showers. We collected at the Kyanite mine near Burnsville, where the following minerals were found: green apatite in round masses up to 1x3 inches, rose quartz of a pale color and sugary texture, biotite mica, and good crystals of kyanite with blue centers running in the long directions of the crystals. On a previous trip to this locality during the summer of 1937, wonderful blue crystals of kyanite were seen imbedded in yellowish colored quartz. These crystals were 1½ inches wide and up to three feet long. Several smaller specimens were collected at that time. Small grains of almandite garnet were also seen in the ore at this locality which consists mainly of a kyanite-biotite schist. The locality may be reached by turning off the Burnsville-Spruce Pine highway to the right, 1.9 miles east of Burnsville, just after passing a saw mill and crossing a railroad. On the way from Burnsville to Spruce Pine, we found good microcline, muscovite crystals, and small trapezohedral almandite garnet crystals up to ½ inches in size in an old quarry along the road. The Woodland Tourist Cottages at Spruce Pine is a fine place to stay or to make one's headquarters while collecting in this district.

July 9th.

July 9th was cloudy with showers. The day was spent collecting at the McKinney and Pittman mines near Little Switzerland, a few miles from Spruce Pine. Many fine minerals were found on the dumps of these mines which are in huge pegmatites. Those found were blue hyalite crusts on quartz and feldspar, smoky quartz, muscovite crystals, large chunks of massive samarskite, poor almandite garnet crystals, good torbernite crystals on smoky quartz, chalcopyrite, and malachite. The two finest specimens obtained here were given to the writer by one of the workmen, so one sees that it is often to his advantage to make friends with them. A very fine specimen of massive samarskite 3¼x4x5 inches, and also a fine specimen of smoky quartz, 3x4 inches, coated with green torbernite crystals, was acquired in this manner.

We also collected at the Smith mine

near Spruce Pine this same afternoon but the rare uranium minerals of this mine were not found. The only specimen of interest collected was a 3x3 inch specimen of white feldspar enclosing clear, red, trapezohedral, broken, almandite crystals.

July 10th

The best collecting of the entire trip was realized July 10th, from the standpoint of rare minerals found. The Deer Park No. 2 mine was the scene of operations for the day. The mine is located three-quarters of a mile south of Pen'and, North Carolina. Here fine autunite, uraninite, gummite, uranophane, torbernite, thulite, muscovite, garnet, and a single crystal of monazite about ¾ of an inch, were found. This mine, together with the McKinney and Pittman mines, supply a representative collection of minerals of the Spruce Pine district. All these mines are being actively worked at the present time. Near the Deer Park No. 2 mine, several fine potholes may be examined along the river. They have been cut in granite and one of them has a three foot diameter and is nearly circular.

July 11th.

July 11th being clear and warm, my wife and I decided to drive to the top of Mt. Mitchell, 6684 feet above sea level. We drove up the mountain over a very beautiful one-way toll road for about 14 miles. (This road should not be attempted with a car in poor running condition). Along this twisting road cut through schist, we saw beautiful rhododendron bushes covered with white blossoms near the foot of the mountain, while near the top of the mountain the rhododendron blossoms were of a light purple color. A specimen of sillimanite schist was found along the trail from the parking area to the top of the mountain. The forest through which the trail ran was very beautiful with its pine trees, firs, ferns, and wild flowers. From the top of the mountain a wonderful view of the surrounding mountains, lakes, and valleys was spread out before us. In returning from Mt. Mitchell to Spruce Pine, we drove over a part of the Skyline Drive of North Carolina, which is over 4000 feet in elevation in many places.

July 12th.

We left Spruce Pine July 12th and visited Linnville Falls, and Blowing Rock, North Carolina, between showers of rain. We reached Galax, Virginia by nightfall. About 20 miles south of Galax, we collected some specimens of ilmenite in quartz from several quartz dikes that cropped along the road.

July 13th.

July 13th it rained also, but I obtained two good twinned rutiles from Mr. Kegley at Old Town, about three miles south of Galax. I looked in his field but had no luck in finding any. These were the only specimens bought on this trip. Drove as far as Sutton, West Virginia that day.

July 14th.

By 3 p.m. the afternoon of July 14th, we were back home in Pittsburgh again, after two weeks of a fine vacation with many mineral specimens and after having traveled close to 1750 miles.

FIELD MUSEUM EXPEDITION WILL COLLECT FOSSILS IN NEW YORK

Dr. Sharat K. Roy, curator of geology at Field Museum of Natural History, left Chicago, Tuesday, July 1 for western New York state to collect specimens of invertebrate fossils of the Paleozoic era, ranging back as far as 550,000,000 years ago. The material to be sought is to fill gaps in the museum's present collection, and make possible reinstallation so that one part of the exhibits will illustrate chronological relationships, and another biologic relationships, of the various small extinct creatures.

Dr. Fritz Haas, curator of lower invertebrates, has recently returned to the museum after a two months' expedition to southern California, where he collected several thousand specimens of Pacific shore animals.

THE PHILLIPS LODE

By VICTOR CROLEY

The old saying "Gold is where you find it," is one of the truest axioms of mineralogy. And some of the spots where it has been found, and the circumstances of discovery, are fascinating tales of the improbable and incredible worthy of the talents of Ripley.

The story of the Phillips Lode is just such a "Believe it or not" incident.

In the decade that followed the "Pikes Peak or Bust" gold rush of the 1860's, the mountains above Denver, Colorado, were combed by prospectors with little or no knowledge of mining, mineralogy, or geology. Often the localities where gold should have been proved barren, while the unlikeliest places disgorged fabulous wealth. Those best qualified to discover the elusive metal were often disappointed, while the veriest novice sometimes stumbled upon a bonanza.

The Phillips Lode was accidentally located by a hunter named Harris. He shot at a deer at such close range and such an easy target that he couldn't believe his eyes when the animal bounded away apparently unhurt. Disappointed, Harris hurried to the vicinity of his target to look for blood stains or other evidence that the deer had been wounded.

What he found made him forget all about venison. The bullet had torn a ragged furrow in the turf, and there, right at grass roots and visible to the eye, was an unbelievably rich deposit of gold.

Harris threw up a shack and set to work. When word of his find leaked out and other prospectors hurried to locate claims, they found Harris already a rich man. Gold poured from his claim in such quantities that his cabin was filled with it—"everything in sight was filled with the metal, the pure gold. . . pots, pans, baskets, even a pair of old boots stuffed and stowed away under the bed."

News of such wealth quickly spread far and wide and soon hundreds of gold seekers arrived to stake claims and start a mining town, which they named Buckskin Joe in honor of the discoverer.

Harris took in a partner by the name of Stancill and between them they provided the new mining camp with three luxurious dance houses and a theatre where Stancill, at his own expense, kept a negro minstrel company performing almost continuously for his amusement.

But the boom faded. Strictly speaking the Phillips Lode was neither a lode mine nor a placer, but a curious and unaccountable deposit of iron gold ore in a natural catch basin of hard granite rock. Eventually the granite walls definitely bounding the rich deposit were struck on all sides. Prospecting in the vicinity failed to reveal any more treasure and the miners drifted away.

Harris, the lucky hunter, soon squandered his wealth and left for parts unknown, never to be heard from again. Stancill ran up $40,000 in debts before he, too, fled to die a pauper in Denver.

A few years later a prospector chanced to pass by and found Buckskin Joe a tumbled ruin—a ghost town haunted with the memories of the four or five thousand miners who worked and caroused there during the boom days.

Don't have your trip wasted!

If you are planning a long trip, take no chances in having it wasted Call on some dealers along your itinerary and buy a few nice specimens from them. They will appreciate this and will give you much valuable information on localities in their neighborhood where additional good specimens may be collected. Look through the advertising pages of this magazine for names and addresses of dealers.

ICE IN CAVE, MINE AND MOUNTAIN

By A. C. HAWKINS

Crystals will grow to perfection only where they have room to do so. Hence water crystallizes most perfectly in the upper air, forming, from invisible water vapor, snow crystals whose repeated twinning, into units each composed of scores or hundreds of individuals, give us the complex hexagonal plates or "stars" so beautifully shown in the photographs taken by the late Wilson A. Bentley of Vermont.* Thin, flat snowflakes an inch in diameter fall through the winter air in our northern states, to lie on the smooth white snowdrifts under the electric arc lights; and there they scintillate with colors of unbelievable intensity and splendor, as each polarizes the light on its own color; the red of rubies, blue of sapphire, yellow of topaz, a veritable field of living jewels.

At other times conical snowflakes appear, standing up half an inch on bases of about half that diameter, tiny peaks of perfection. It appears that a snowflake, starting to fall through a layer of the upper air which is filled with wet snow, gathers unto itself the passing snow particles, forming the cone as it falls.

Where quiet water freezes partially on the surface, large individual crystals of ice may form. In a shallow pan of water which remained outdoors overnight a single hexagonal prism of ice, 6 inches long and half an inch in diameter formed, having a similar but shorter prism twinned at 60° to it. The crystal resembled the one in the second row from the top on page 210 of the book on snow crystals. On the surface of rivers in some of the southern states a mesh of long tapering ice crystals, each a foot or more in length, will form during each cold night.

Where the Niagara River falls 157 feet over its escarpment of limestone, icicles at least 50 feet long hang down in the winter. Tourist parties pass along behind them under the overhanging shelf of limestone.

There are many caves in America in which winter ice formations remain during the entire summer, because of their sheltered position and the fact that they are permanent reservoirs for masses of cold, dense air. Most of these caves are, however, at relatively high elevations above sea level. At the lower elevations the temperatures in natural caves (as in Virginia) remain much too high for ice at any season, holding steadily at 52° to 56° Fahrenheit, with little variation.

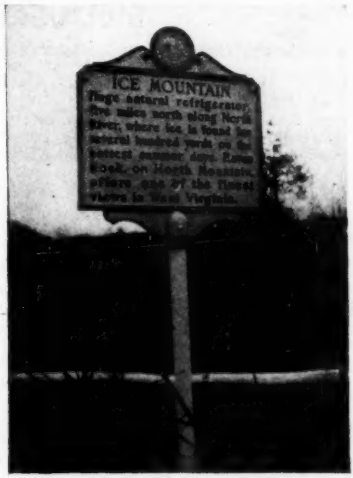
In the Adirondack Mountains in northeastern New York there is at least one deep abandoned mine pit wherein the ice never melts. This is at Mineville in Essex County. Here the inhabitants of the village come during the summer to quarry out what ice they need. The sunshine never reaches the surface of the ice, which is green and solid, and apparently reaches to the bottom of the excavation.

A still more remarkable occurrence is in the "Ice Mine" on U. S. Route No. 6, just east of Coudersport in Potter County, Pennslyvania, less than 10 miles due south of the New York State line. Many years ago, in a northward-facing mountain slope, in gray shaly rock, a square shaft over 30 feet deep was sunk, supposedly in search of lead ore. But it turned out to be a real "gold mine." Underground water oozes in slowly through cracks in the shale; during all the summer it freezes, forming icicles fully 25 feet long on the walls; and during the autumn and winter the ice all melts away, leaving only water dripping slowly into the bottom of the shaft. This is exactly suited to the needs of the tourist trade. It appears that, according to the best geological advice, very cold, dense air completely fills the cracks of the shale on the mountainside during the winter. During the spring and summer this air, at a temperature just below freez-

*_Snow Crystals_, by W. A. Bentley and W. J. Humphreys; McGraw-Hill Book Co., 1931. Should be the joy and delight of everyone interested in crystals.

ing, slowly creeps along to the mine, and fills the hole; surface water at summer temperature runs through the cracks into the shaft, and promptly freezes. By the end of the summer the cold air has all run out of the hillside, and is followed by warm air, which keeps the water in the shaft from freezing during the winter season.

A similar explanation appears suitable for the Ice Mountain in northeastern West Virginia. This mountain is located some 26 miles by road to the southeast of Cumberland, Maryland; but it may be more easily reached from U. S. Route 50, west from Winchester, Virginia. A prominent road sign gives its official story and directs the traveler to the locality some 5 miles north of the main highway. The northwest slope of the mountain is mantled with a very large, deep talus slope of mammoth Oriskany sandstone blocks, which have tumbled down, during long periods of time, from the rocky summit. This pile of loose rock is a natural reservoir for cold air stored up during each winter season. 'Tis said that, in some years, summer ice crystals are plentiful among the rocks—but at any rate it is unusual, on a hot summer day, to feel icy air flowing down the slope around one's ankles and into the creek, like water from hillside springs.



THE ROAD SIGN ON THE WEST VIRGINIA HIGHWAY

Curving ice crystals that grow during each winter night in porous soil, reaching 4 inches or more in length, have a beauty all their own. And the so-called "rime" crystals, which are really a form of frost, which grow to the windward from every twig and grass-blade on the mountain-tops during periods of cold weather and low-hanging clouds, have a wondrous beauty.

Commercial Minerals of California

The State Division of Mines, Department of Natural Resources, announces a series of papers by George L. Gary, Mineral Technologist, on the Commercial Minerals of California, giving

Properties	Tests
Occurrences	Markets
Preparation	Possible Buyers
Uses	Bibliography

Included with these will be the strategic minerals listed by the U. S. Army and Navy Munitions Board.

It is felt that this information is particularly timely because of the need of many of these minerals for priority stock pile defense uses.

These will be released weekly—each paper on a particular commercial mineral.

The first four, which became available during May, are on

1. Magnesite
2. Chromite
3. Manganese
4. Tungsten

Those to be released during June will be as follows in the order named:

5. Quicksilver
6. Antimony
7. Mica
8. Aluminum

Succeeding mineral subjects will be announced later.

Copies may be obtained at the offices of the Division of Mines, Ferry Building, San Francisco: State Building, Los Angeles: State Office Building, Sacramento: Care Chamber of Commerce, Redding—or they will be mailed upon receipt of postage in the amount of 3c per copy.

BIBLIOGRAPHICAL NOTES

Open-Cut Metal Mining: By E. D. Gardner and McHenry Mosier.

For those of our readers who are interested in mining here is a very good report which discusses open-cut mining at the most important metal mines of the United States. U. S. Bureau of Mines Bull. 433, 176 pp., 60 illus.

For sale by the Supt. of Documents, Washington, D. C.—40c per copy.

Bulletin of the National Speleological Society

The May, 1941, issue, of the Society whose purpose is to disseminate information on caves and cave exploring, is a most interesting publication. It contains reports on caves in various sections of the East, a list of caves in many of the states, systematic list of the fauna collected from caves, bibliography on caves, two good maps of caves, etc.

Copies obtainable at 50c each (51 pp.) from A. C. Lewis, Corres. Secretary, 510 Star Bldg., Washington, D. C.

The Royal Gorge—History and Geology: By F. C. Kessler.

The Royal Gorge of the Arkansas River in Colorado is one of the world's most noted geological wonders. In this very interesting booklet of 32 pages, Mr. Kessler gives the history and geology of the gorge; he describes briefly the minerals, fossils, trees and wild flowers occurring in the area—trails and roadways are also featured. A large number of photos, sketches and maps add to the interest and value of the text while an attractive cover is pleasing to the eye.

Mr. Kessler, who is a member of the Rocks and Minerals Association and Secretary of the Canon City Geology Club, is to be congratulated on the issuance of his very interesting and most attractive booklet. We know that our readers will all want copies of it. Copies are obtainable from the author, Mr. F. C. Kessler, Canon City, Colo., at 50c each.

Nature as Sculptor—A geologic interpretation of Colorado scenery: By Richard M. Pearl.

This booklet has been written for those visitors to Colorado and residents within the State who want to know how the scenery of Colorado "happened". It tries to tell, simply but correctly, the geologic stories of many of the famous places of beauty so that an understanding of their origin and development may supplement a merely aesthetic appreciation.

Mr. Pearl is Secretary of the Colorado Mineral Society and a member of the Rocks and Minerals Association.

The booklet contains 44 pages, 23 plates and is priced at 25c. Issued by the Colorado Museum of Natural History, Denver, Colo.

The Chicora (Butler County, Pa.) Meteorite. By F. W. Preston, E. P. Henderson, and James R. Randolph.

On June 24, 1938, a few seconds before 6 p.m., a brilliant fireball flashed across the sky from southwest to northeast; and a few seconds past the hour Butler City and the northern part of Pittsburgh were rocked by a terrific explosion, like a long-drawn thunder roll. The main mass of the meteorite was never found, only two small fragments (242 and 61 grams each) which fell into a chicken paddock in Chicora and were found the next day by the farmer, Adam Garing. They were stony meteorites.

This interesting report is from the Proceedings of the U. S. National Museum, Washington, D. C. (Vol. 90, pp. 387-416, 6 pls.)

Geological Review: This is the official journal of the Geological Society of the City College of New York, New York, N. Y.

The May, 1941, issue of 17 pages contains five interesting articles of which the first "Archaeology of New York City" should be of great interest to our New York City readers. A sketch map showing the location of Indian sites examined by the writer is included.

The Mitre Peak Area, Trans-Pecos Texas: By Ronald L. Ives.

A reconnaissance made in the fall of 1939 disclosed a number of flows, sills, dikes, necks and igneous domes of Paleocene age in the immediate vicinity of Mitre Peak, in the southern Davis Mountains, between Alpine and Fort Davis.

This interesting reconnaissance report by Mr. Ives, who is Vice-President of the Rocks and Minerals Association, appeared in the May, 1941, issue of the *American Journal of Science,* (pp. 339-353, 3 sketch maps and 2 pls.).

Vegetative Indicators of Solifluction: By Ronald L. Ives.

It has been determined by careful examination of terrains that certain disturbed trees indicate soil movement. From evidence collected by Mr. Ives, it appears that soil movement, due to faulting, slip, landslide or other causes, has a definite effect on the forest cover in the moving areas. In the southern Rocky Mountains, dense aspen growths in an area normally supporting an evergreen forest, may indicate recent soil motion.

This interesting paper appeared in the April, 1941, *Journal of Geomorphology,* (pp. 128-132).

Collectors' Tales

By PETER ZODAC

ROMANCE

Some Kind of "Ailin"

While on a prospecting trip in the Alleghany Mountains, we were forced to hire a team of horses and wagon to transport our equipment to the place of operations. We made a deal with one of the natives to "haul" us up there. We "got goin' " and to "while" away the time, we engaged the driver in conversation. He was a real store house of folk lore. We learned quite a lot of interesting things about the mountain people from him. We asked him if he knew of any romance among these people. He said, "I guess not. None that I ever heard tell of."

After a while, we inquired if he was ever in love. He said, "Yes, once but she got married." This is the story he told us.

"We're agoin to pass a house up hyar whar she uster live. She was right smart pretty 'n I reckon we'd a-got hitched ifen that thar millyonair hadn't axed fer a drink of water and seed her.

This feller come past hyar a-lookin' fer stock fer to graze 'n got offen the wrong road 'n stopped ater her house to git a drink. She her ownself brung the gourd 'n soon as he seed her he said, 'I'm a-goin' to marry you.' He give her his name on a piece of cardboard 'n sed, 'I'm a-comin' back to git yer,', 'n he did, so I guessin I'll have to git me 'nother girl."

"My goodness, fellow, that's romance," we said.

"Oh, I wuz a-thinkin' it was some kinder ailin." he replied.

We inquired at the little mountain town about this love at first sight and found that a rich farmer's son from near Clarksburg, West Virginia, did come like a Lochinvar from out of the West, fell in love with this beautiful mountain girl when she gave him the drink of water and married her.

This happened at St. George, Tucker Co., W. Va.; where a "fool's gold" rush occurred several years ago.

—Walter S. Amos

COLLECTOR'S KINKS

Laundry Ink for Marking Minerals

A dealer, who has been having lots of trouble with gummed labels falling off of minerals, has been using black laundry ink for marking his specimens and with good results. For light colored minerals, the ink is used direct on a specimen—smooth surfaces always taken. For dark colored minerals, a small dab of white enamel is put on which, when dry, the black laundry ink is used.

Water has no affect on laundry ink so that specimens may be washed without danger of the ink dissolving.

CLUB AND SOCIETY NOTES

Philadelphia Mineralogical Society

On Thursday, June 5th, 1941, the Society held an important meeting devoted to a program commemorating the issue of the first number of the AMERICAN MINERALOGIST, which it founded exactly 25 years ago. Despite the very bad weather, a large number of members and guests were present at the meeting which was called to order at 8:15 p. m. in the clubroom at the Philadelphia Academy of Natural Sciences, Philadelphia, Penn.

The meeting opened with the reading of telegrams from Jack Boyle of Brooklyn, N. Y., and Wylie Flack of LaPorte, Ind,, two members who expressed their regrets in not being able to be present but extending congratulations to the meeting.

Dr. E. T. Wherry, the first editor of the AMERICAN MINERALOGI.T, was the first and chief speaker.. He related how the magazine was established in 1916 and what some of its difficulties were. Then branching off slightly from the subject he mentioned making an iron spark for fluorescence, being one of the first ever used by a mineral collector and that his list of fluorescent minerals was published in the MINERAL COLLECTOR which went out of existence in 1908. He also related some amusing anecdotes about Dr. Merrill of the U. S. National Museum.

Mr. R. B. Gage, the next speaker, spoke about Col. Roebling and his famous mineral collection. He related how the Colonel, being deeply interested in the AMERICAN MINERALOGIST and knowing of its financial difficulties, called him to his study where he was given the largest interest-bearing bond ($40,000) in the Colonel's possession, which was turned over to Prof. Phillips of Princeton Unive sity, the then Treasurer of the Mineralogical Society of America. This gift was soon followed by another of $5,000.

Mr. Harry W. Trudell was the first business manager of the AMERICAN MINERALOGIST. He spoke of the early days of the magazine and mentioned the large number of colleges, museums, libraries, and collectors, both here and abroad, who took the magazine.

Mr. Sam G. Gordon read a large number of letters—many very amusing— that were received 25 years ago and had to do with the magazine. He also stated that the Mineralogical Society of America was founded in 1920 and that the magazine was turned over to them.

Mr. Peter Zodac spoke very briefly on some problems that had confronted ROCKS AND MINERALS many of which paralled those of the AMERICAN MINERALOGIST.

Mr. F. L. Lenker also spoke briefly centering his remarks on his experiences in collecting and polishing minerals. He was the last speaker.

Mr. Wm. R. Hoffa delighted the large group by his display of ash trays, boxes, and other ornaments made of green onyx, malachite, tiger eye, labradorite, etc. They were very handsome—artistically made and with a beautiful polish.

Dr. W. Hersey Thomas was the presiding officer with F. L. Lenker at the Secretary's desk. The Philadelphia Mineralogical Society is 49 years old.

Bridgeport Mineral Club

The 4th field trip of the year will be held Sunday, Aug. 24th. at the old siderite mine on Mine Hill, Roxbury Station, Conn. The trip will start from the Central High School, Bridgeport, Conn., at 9:30 a.m.

New Haven Mineral Club

The 5th field trip of the club will be held Sunday, August 17th, at the pegmatite quarries at Haddam Neck and Rock Landing, Conn., where many interesting minerals occur. The group will meet in front of the Peabody Museum on Whitney Ave., New Haven, Conn., at 9:00 a.m. from which point it will proceed to the locality.

The field trip held on Sun., June 15th, at the Slocum quarry near East Hampton, Conn., was a grand success as many fine golden beryl crystals were found. The prize specimen, a two inch, loose, golden beryl of gem quality (but with no terminations) was found by Miss Sarah Davis of North Haven, Conn. Mrs. Sadie Crowley of New Haven found three or four very good specimens and so did Mrs. Norman Wickstrand of Forestville, Conn., and O. W. Bodelsen of Mt. Kisco, N. Y. Thirty collectors were in the group and after the activities were over many of them journeyed to the home of L. W. Little, in East Hampton, where his very fine collection of golden beryls from the quarry was especially examined; his general collection. too, received much attention. After some delicious refreshments served by charming Mrs. Little and the donation of many specimens from Mr. Little's stock of duplicates, the party reluctantly left for home.

Southwest Mineralogists

At the annual election of the club, the following officers were chosen to act for the coming year:

John F. Akers, President
Mrs. Jeanne Lippitt, Vice-President
Herbert Collins, Recording Secretary
Frank Stillwell, Treasurer
Mrs. Dorothy Akers, Corresponding Secretary
Mrs. Dorothy Akers,

East Bay Mineral Society

At the June 5th meetng of the East Bay Mineral Society of California the following officers were elected:

President B. E. Sledge, 1438-88th Ave., Oakland
Vice-President Mrs. F. W. Buhn, 2070 Charlene Way, Hayward
Secretary H. C. Mahoney, 1467-79th Ave., Oakland
Treasurer R. Whalley, 7419 Rockway Ave., El Cerrito
Directors:
R. E. Lamberson, 148-12th St., Oakland
W. Mehnert, 1315 Marin Ave., Albany
J. Smith, 583 Durant Ave., San Leandro

The guest speaker, Mr. R. R. Randall, of the Randall Engineering Co., Oakland, gave a very instructive talk on "Topographic maps and how to read them".

The Society meets on the first and third Thursdays, 8:00 p.m., in the Auditorium of the Lincoln School, 11th and Jackson Sts., Oakland.

H. C. Mahoney, Secretary

THE CHISELERS

The Chiselers, a club made up of young girls, held a mineral exhibit in the spacious garage of their sponsor, Miss Evelyn Waite of Crestwood, N. Y., on June 7th and 8th. The garage was especially decorated for the occasion while maps and pictures of minerals and localities were hung on its walls.

The minerals were attractively displayed on tables, benches, shelves, cabinets, all carefully labelled and representing many localities—Westchester and Putman Counties, N. Y., were especially numerous. An interesting locality was Fort Clayton, Canal Zone, which was represented by nice waterworn pebbles of pale reddish chalcedony.

Gems, fluorescent minerals, mineral books and a huge stack of ROCKS AND MINERALS were very conscpicuous and received much attention.

The two day exhibit drew a large number of visitors from New York and other states and received much favorable comment on its attractiveness and wide variety of interesting material.

COAL MINES TO BE INSPECTED BY CIVIL SERVICE APPOINTEES

On May 7, 1941 the Congress of the United States passed an act authorizing the United States Bureau of Mines of the Department of the Interior to make periodic inspections and investigations of coal mines. The Bureau is charged with the responsibility for obtaining information on health and safety conditions, accidents causing serious injury or loss of life, and the occupational diseases of coal mining. A staff of inspectors is to be appointed from the employment lists set up as a result of an examination just announced by the Civil Service Commission.

Coal mine inspectors will be paid salaries ranging from $2,600 to $4,600 a year and will be assigned to work in the Bureau of Mines at various points throughout the country. No written test will be given but applicants will be rated on their training and experience. For the two higher grades ($3,800 and $4,600 a year), broad and progressive practical experience in connection with the safety-of-operation of coal mines is required, and some of this experience must have been in a supervisory capacity. For the assistant and associate grades ($2,600 and $3,200 a year respectively) experience in practical coal mining is required which included responsible experience in mine safety work. For all these jobs, an applicant must show that his experience and training have included coal-mine operating or safety work, or technical work in practical mining engineering which gave him a thorough knowledge of the essentials of coal mine inspection. For all but the assistant grade, provision is made for the substitution of college engineering courses for some of the prescribed experience.

The Commission urges qualified persons who have reached their thirtieth birthday, who have not passed their fifty-fifth birthday, who are not over 74 inches in height, and who can meet the high physical standards necessary for this work to file their applications. Applications will be accepted at its Washington office until December 31, 1941. Further information and application forms may be obtained at any first-or second-class post office or from the Civil Service Commission.

Clubs Affiliated With the Rocks and Minerals Association

ARIZONA

Mineralogical Society of Arizona
Geo. G. McKhann, Sec.. 909 E. Willetta Street, Phoenix.
Meets at the Arizona Museum in Phoenix on the 1st and 3rd Thursday of each month.

CALIFORNIA

East Bay Mineral Society
Miss Marjory Welch, Sec., 3268 Central Avenue, Alameda.
Meets on the 1st and 3rd Thursdays of each month (except July and August), at 8:00 p.m., in the Lincoln School Auditorium, 11th and Jackson Sts., Oakland.

Northern California Mineral Society
A. L. Rogers, Sec., 137½ Joost Ave., San Francisco.
Meets on the 3rd Wednesday of the month at the Public Library in San Francisco.

Southwest Mineralogists
Mrs. Pearle Arnold, Cor. Sec., 2132 W. 76th St., Los Angeles.
Meets every Friday at 8:00 p.m. at Manchester Playground, 88th and Hoover Sts., Los Angeles.

COLORADO

Canon City Geology Club
F. C. Kessler, Sec., 1020 Macon Ave., Canon City.
Meets on the 1st and 2nd Saturdays of each month at 9:00 a.m. in the High School Building Canon City.

Colorado Springs Mineralogical Society
Lynn M. Hopple, Sec.-Treas., Motor Route 2, Colorado Springs.
Meets usually at the Lennox House, Colorado College Campus, Colorado Springs, on the 2nd Monday, of each month at 7:30 p.m.

CONNECTICUT

Bridgeport Mineral Club
Mrs. Julia Walker, Sec., 55 Eaton Street, Bridgeport.
Meets in the Bridgeport Public Library on the 3rd Monday of the month.

Long Hill Mineral Club
Eugene F. Robinson, Secc., R. F. D. No. 4, Box 237, Bridgeport.
Meets on the 4th Tuesday of each month at 8:00 p.m., in the Hawley Memorial Library, Long Hill.

Mineralogical Club of Hartford
Mrs. L. T. Goodrich, Sec., 51 Jerome Avenue, Bloomfield.
Meets the 2nd Wednesdays of each month, at 8:00 p.m., at 249 High St., Hartford.

New Haven Mineral Club
Mrs. Lillian M. Otersen, Sec., 16 Grove Place, West Haven.
Meets on the 2nd Monday of the month at the Y. W. C. A. on Howe St., New Haven.

IDAHO—OREGON

Snake River Gem Club
Margaret L. Hearn, Sec., Payette, Idaho.
Meets alternately in Payette and Ontario, Oregon, (two small cities on the Snake River) on the 3rd Tuesday of every month.

ILLINOIS

Junior iMneral League
E. Johansen, Sec., Morgan Park Junior College, 2153 W. 11th St., Chicago.

MAINE

Maine Mineralogical and Geological Society
Miss Jessie L. Beach, Sec., 6 Allen Avenue, Portland.
Meets last Friday of the month at 8 p.m., at the Northeastern Business College, 97 Danforth Street, Portland.

MARYLAND

Natural History Society of Maryland
2103 N. Bolton Street, Baltimore.
Office hours, Tuesdays and Fridays, 10:00 a.m. to 5:00 p.m.

MASSACHUSETTS

Connecticut Valley Mineral Club
Leo D. Otis, Sec., 12 Clark St., Westfield, Mass.
Meets on the 1st Tuesday of each month at 8 p. m. at various institutions in the Connecticut Valley.

MISSOURI

National Geologist Club
Mrs. D. P. Stockwell, Pres., Mt. Olympus, Kimmswick.

NEVADA

Reno Rocks and Minerals Study Club
Mrs. Rader L. Thompson, Sec., Box 349, R2, Reno.
Meets on the 1st Wednesday of each month, at 7:30 p.m., at the Mackay School of Mines, Reno.

Western Nevada Mineral Society
A. Cornely, Sec.-Treas., P. O. Box 21764, Reno.

NEW JERSEY

Newark Mineralogical Society
William E. Simpson, Sec. 308 Grove Street, Montclair.
Meets on the 2nd Sunday of the month at 3 p.m. at Junior Hall, corner Orange and North 6th Streets, Newark.

Plainfield Mineralogical Society
Joseph D'Agostino, Sec.-Treas., 711 Sheridan Avenue, Plainfield.
Meets on the 1st Tuesday of the month at 8 p.m. at the Plainfield Public Library.

NEW MEXICO

New Mexico Mineral Society
R. M. Burnet, Sec.-Treas., Carlsbad.

Society of Archaeology, History and Art
Carlsbad.

NEW YORK

Chislers, The
Miss Evelyn Waite, Sponsor, 242 Scarsdale Road, Crestwood, Tuckahoe.
Meets bi-monthly at members' homes.

Queens Mineral Society
Mrs. Edward J. Marcin, Sec., 46-30—190th Street, Flushing.
Meets on the 2nd Thursday of the month at 8 p.m. at 289 Etna Street, Brooklyn.

OKLAHOMA

Oklahoma Society of Earth Sciences
W. P. Smiley, Sec.-Treas., 229 W. Jefferson Street, Mangum.
Meets on the 2nd Tuesday of each month, at 7:30 p.m., at the Historical Museum, Mangum.

PENNSYLVANIA

Thomas Rock and Mineral Club
Mrs. W. Hersey Thomas, Pres., 145 East Gorgas Lane, Mt. Airy, Philadelphia.
Meets on the 3rd Friday of each month, at 8:00 p.m., at the home of its president, Mrs. Thomas.

VERMONT

Mineralogical Society of Springfield
Victor T. Johnson, Sec., 11 Elm Terrace, Springfield.
Meets on the 3rd Wednesday of each month at 8:00 p.m. at the homes of members.

WASHINGTON

Gem Collectors Club
Mrs. Llyod L. Roberson, Sec., 522 North 70th Street, Seattle.
Meets on the 1st and 3rd Tuesday of each month (except during the summer) at 8:00 p.m., at the Y. M. C. A.

Washington Agate and Mineral Society
Monroe Burnett, Sec., 802 S. Central St., Olympia.
Meets on the 1st Monday of the month, at 7:30 p.m. at the home of some member.

NATIONAL DEFENSE POSITIONS OPEN FOR INDUSTRIAL SPECIALISTS

Trained personnel in every branch of industry, science and business is being called to Government service in this time of emergency. Individuals who know industrial methods and processes from first-hand experience are needed to contribute their part toward the integration of the expanding defense program. The Civil Service Commission has just announced an examination for Industrial Specialist positions paying from $2,600 to $5,600 a year. The examination (Announcement No. 102) is open for one month only. Applications will not be accepted at the Commission's Washington office after August 7.

Industrial specialists may be called upon to perform any of three types of jobs. The first is that of liaison representative in developing and maintaining working relationships with manufacturers of materials or equipment vital to the defense program. Secondly, they may act as consultants on industrial materials, methods and processes, or they may examine and evaluate data secured from the reports of various industrial concerns. The third possible assignment is that of investigator and analyst in the field of industrial materials, which involves the collection of data on production techniques, uses, consumption, and market supplies of particular materials.

To qualify for these positions, experience is required that has given the applicant a thorough knowledge of production methods and processes in one or more manufacturing industries. This experience may have been in industrial management, planning, engineering, cost accounting, business analysis, or research. Applicants may substitute resident study in an educational institution above high school grade, up to a maximum of 4 years, for this general experience. For each of the positions, applicants must have had some experience in one (or in a combination of not more than three) of the following industries.

Iron and steel; Non-ferrous metals; Machine tools; Ordnance; Aircraft, marine and automotive equipment; Railroad repair shops; Radio and other electrical equipment, supplies and apparatus; Textiles; Forest products; Paper; Printing and publishing; Chemicals; Plastics; Products of petroleum and coal; Rubber products; Stone, clay and glass products; Leather and its manufactures; and Food and kindred products.

Applicants are rated on their education and experience and upon corroborative evidence. An oral examination may be given to determine further an applicant's qualifications for the positions. No written test will be given. Further information and application forms may be obtained at any first- or second-class post office or from the Civil Service Commission in Washington.

WITH OUR DEALERS

Wilfred Eyles, 2794 A St., Hayward, Calif., spent a few days in the field collecting minerals, with two friends, Cappy Ricks and Rattlesnake Andy. They headed direct for Virgin Valley, Nev., where Virgin Valley Mark Foster (The Opal King) was awaiting them. Here they spent two days helping Mark dig out some opal from his famous Rainbow Ridge Opal Mine. A number of other stops were made, one being at the Getchell Mine, Winnemucca, Nev., where some very nice realgar and orpiment were obtained.

A. J. Alessi, 430 S. Highland Ave., Lombard, Ill., has been making regular trips to the lead and zinc district to Wisconsin, the Lake Superior region and to many localities near the Chicago area. His stock of specimens from these areas is a very large and good one.

Edward T. Barone, 640 Forest St., Orange, N. J., natural history book specialist, is offering books on easy-time payments. His special offer of a college geology for 98c is a bargain. Look up his ad and order your copy today.

Harold Printz has closed up his shop in Roseburg, Ore., and moved to Newport, Ore., where he is now manager of the Yaquina Gem Shop. Our best wishes are extended Mr. Printz in his new surroundings.

C. L. Brock, Manager of the American Mineral Exchange, 212 Pacific Ave., Houston, Texas, is planning to visit the pink garnet locality at Xalostoc, Mexico. We are sure he will bring back with him many choice specimens of this rare garnet to enrich his large stock of fine minerals.

Dr. and Mrs. R. E. Anderson, collectors of Fluorescent Minerals, formerly of Lovington, are now located in Deming, New Mexico. Dr. Anderson recently discovered a new Calcite that due to the presence of some secondary Uranium mineral fluoresces a strong yellow-green. All mineral collectors have a cordial invitation to visit the Anderson's Fluorescent Museum while in Deming.

W. Scott Lewis, 2500 N. Beechwood Dr., Hollywood, Calif., has recently purchased a stock of very fine mineral specimens which had been in storage since the first of the century. These specimens, which include a large number of rich cerargyrite and embolite, are from the Calico region northeast of Barstow, Calif. As Calico is now a famous ghost town, the specimens, which are being offered collectors at reasonable prices, will not last long. Better rush your order to Mr. Lewis while the specimens are still available!

LIFE MAGAZINE GOES MINERALOGICAL

In the issue of LIFE MAGAZINE of July 21st there are two pages given to illustrations of mineral specimens in the National Museum, Washington, excellently well reproduced in color. A full page picture preceding them is a view of some of the Boston Mineral Club members prospecting for specimens at the noted talc quarry near Chester, Vt. Following the pictures in color is one of the huge talc pit with members going down into it and another of Mrs. Grace Dearborn, Secretary of the Boston Mineral Club, examining some crystals in her collection.

We are grateful to LIFE for the attention they call to mineralogy believing that, with their tremendously large circulation, they will be helpful to *Rocks and Minerals* in its endeavor to reawaken a new interest in this most beautiful and attractive field of nature study. These pictures are about as fine a reproduction of minerals in color as we have seen and we think they are of sufficient interest for each collector to have at least one copy of the magazine and each club to have two copies for framing.

IMPORTANT ANNOUNCEMENT—See last inside page—Next Month.

CLASSIFIED ADVERTISEMENTS

WORLD'S BEST WANT AD. MEDIUM FOR MINERALS

Rate 5c per word; minimum 10 words. Remittance must accompany copy in all cases. Advertisers must furnish satisfactory references before their advertisements will be inserted. Forms close the 1st of every month.

BOOKS

Handbook For the Amateur Lapidary by J. H. Howard, 16 chapters covering all phases of gem cutting and polishing, 141 pp., 14 illus., price $2.00. J. H. Howard, 504 Crescent Ave., Dept. R., Greenville, S. C.

How to Collect Minerals. By Peter Zodac. A guide book for the collector. 80 pp., 15 ills., $1.00. Rocks and Minerals, Peekskill, N. Y.

Fifty Back Numbers of Rocks and Minerals Magazine, all in good condition and all different, $10.00. If you have back numbers send a list of them with your order and we will try not to duplicate any of them. Rocks and Minerals, Peekskill, N. Y.

History and Geology of the Royal Gorge, an illustrated souvenir booklet with maps and drawings locating 54 minerals for touring collectors. 50c postpaid. F. C. Kessler, Canon City, Colo.

FOSSILS

Fossils, Minerals, Old Arms, Indian Beaded Trappings, prehistoric specimens, general line of curios. Lists 10 cents. N. E. Carter, Elkhorn, Wisc

EXCHANGES

I WANT TO EXCHANGE MINERALS. CAN OFfer fayalite, forsterite, thorite, triphyllite, heterosite, manganapatite for good specimens from other localities. Gunnar Bjareby, 147 Worthington St., Boston, Mass.

LAPIDARY SERVICE & SUPPLIES

Diamond Saws Cut At Least Five Times Faster than any other type of saw. They use less power, are cleaner to operate and absolutely safe, and what is most important for per square inch of material cut, they are far cheaper. We are prepared to stand back of these statements. Eventually you will use one. Full directions for use with each saw. Free lessons and demonstrations given local purchasers. Prices 8" $5.50; 10" $6.50; 12" $7.50. Larger sizes on request. Wilfred C. Eyles, 794 W. A St., Hayward Calif.

MINERALS

Millerite from Milwaukee, Wisconsin. Benedict P. Bagrowski, 1014 Vt., Lawrence, Kansas.

Australian Opals of All Kinds: Rough, partly polished and cut, all prices. Write for free catalogue. Sample Selection for Collectors or Lapidaries: Good assortment, $5.00, $10.00. Opal Bead Necklaces: Beautifully graded and polished from $25.00 each. Mineral Specimens: Cerussite,, tantalite, etc. Write for list. Norman Seward, "Opal House," Melbourne, Australia.

MINERALS

Minerals, Fossils, Indian Relics, Books, Coins, Curios, Stamps. Old Glass. Catalogue 5c. Indian Museum, Osborne, Kansas.

Scott Rose Quartz Co.—Rose Quartz, Black Hills specimens, all kinds and colors; for rock gardens, cabinets, etc. Boxes: 24 specimens, **$1.00; 18 specimens, 50c; 15 specimens, 35c.** Postage paid. Box 516, Custer, S. Dak. Send stamp for price list.

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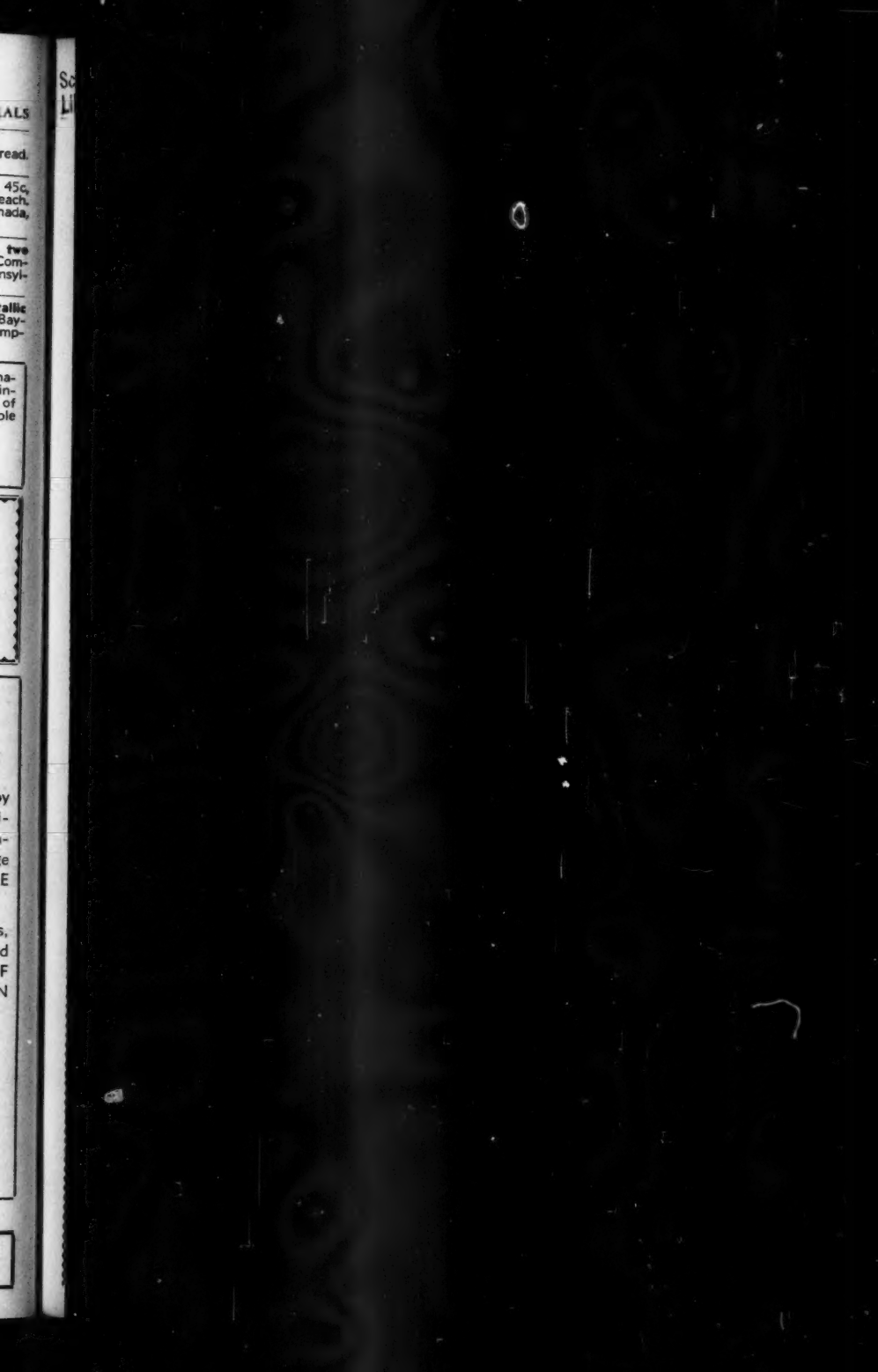
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